

REMARKS

With the present response, Applicants cancel claims 1-4 and 37, amend claims 15-18, 20-22, 24-26, 29, 39, and 40. Consequently, claims 5-36 and 38-40 are pending. The currently pending independent claims are claims 5, 10, 11, 13, 15, 19, 23, 27, 32, and 38. The amendments to claims 17, 21, and 25 are supported, e.g., by FIG. 3, by page 4, lines 12-18, and by page 5, lines 8-11.

In the outstanding Office Action, the Examiner (1) noted that “adapted to” is not a positively recited limitation; (2) objected to claims 5-9, 14-18, and 29; (3) rejected claims 15-18, 20, 24, 27-31, and 39 under 35 U.S.C. §112; (4) rejected claims 1-4 under 35 U.S.C. §101; (5) rejected claims 5-14 and 27-40 under 35 U.S.C. §102(e) as being anticipated by Ho et al., U.S. Publication No. 2003/0128683; (6) rejected claims 1-4, 15-17, 19-21, and 23-25 under 35 U.S.C. §103(a) as being obvious over Lindskog et al., U.S. Patent No. 6,622,251 in view of Lorenz, U.S. Patent No. 6,700,877; and (7) objected to claims 18, 22, and 26 as being dependent on a rejected base claim, but indicated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

It is noted that claims 38-40 are indicated as being anticipated by Ho. However, as the features in claims 38-40 may be considered to be similar to features in claims 19-21, and claims 19-21 stand rejected using a combination of Lindskog and Lorenz, Applicants assume herein that claims 38-40 stand rejected for reasons similar to those given for claims 19-21. Should this assumption not be correct, then Ho does not disclose the features in independent claim 38 of “means for assigning medium access control identification codes (MAC_IDs) from a MAC_ID space to each of a first group of a plurality of mobile stations in an ascending order from the MAC_ID space, wherein the plurality of mobile stations communicate with an apparatus;” and “means for assigning MAC_IDs to each of a second group of the plurality of mobile stations in a descending order from the MAC_ID space” and claim 38 and its dependent claims 39 and 40 are patentable over Ho.

With regard to the note in (1) above, the Examiner asserted that the term “adapted to” is not a positively recited limitation. Applicants respectfully disagree. In re Venezia, 189 USPQ 149 (CCPA 1976), explicitly held that the phrase “a pair of sleeves . . . each sleeve of said pair adapted to be fitted over the insulating jacket of one of said cables” imparts a structural limitation to the sleeve. The court went on to hold that the language “adapted to be affixed” and “adapted to be positioned” also defines present structures or attributes of the part which limits the structure of the housing. Nowhere in In re Venezia is there a holding that the term “adapted to...” is not a positive limitation. In addition to In re Venezia, other CAFC decisions have also held that the term “adapted to” is entitled to patentable weight, including Pac-Tec Inc. v. Amerace Corp., 14 USPQ2d 1871 (Fed. Cir. 1990), where it states the following:

Pac-Tec's primary attack on validity is based on the assertion that Amerace's claimed inventions are anticipated by the disclosures in three patents considered by the Patent and Trademark Office examiner. The assertion rests on Pac-Tec's improper redrafting of the claims by deleting the preamble and all limitations that include "*adapted to*", "whereby", and "thereby" so that the claims are reduced to mere collections of parts. Pac-Tec totally disregards the district court's careful consideration, after a full trial on the §102(a) and (b) issues, of the claims as wholes. In so doing, *the [district] court found that the language excised by Pac-Tec constituted structural limitations*, citing as authority In re Venezia, 530 F.2d 956, 189 USPQ 149 (CCPA 1976). In its brief here, Amerace cited seven additional authorities for the proposition that functional language, in cases like the present, cannot be disregarded.

Id. at 1876 (bold italic emphasis added). The court went on to conclude that “Pac-Tec's invalidity arguments are frivolous.” Id. See also Intermatic Inc. v. Lamson & Sessions Co., 61 USPQ2d 1075 (Fed. Cir. 2001), where “adapted to” was used throughout the claims yet was never at issue in Intermatic, even though the Federal Circuit reviewed some of the limitations containing the “adapted to” terminology (see, e.g., Id. at 1083) and claim construction is a matter of law that is reviewed by the Federal Circuit *de novo* (the statement that claim construction is a matter of law that is reviewed *de novo* occurs Id. at 1081). See also CytoLogix Corp. v. Ventana Medical Systems Inc., 76 USPQ2d 1592 (Fed. Cir. 2005),

where again “adapted to” was used in the claims yet was never at issue, even though the Federal Circuit reviewed some of the limitations containing the “adapted to” terminology (see, e.g., Id. at 1596-7) and even though claim construction was reviewed by the Federal Circuit *de novo*.

With all due respect, the Examiner is ignoring legal precedence of the Federal Circuit. According to such precedent and as recited in the claims at issue here, the term “adapted to” is a positively recited limitation.

With regard to the objections in (2) above, the Examiner objected to claims 5-9, 14-18, and 29 and specifically objected to claims 5, 15, and 29 and objected to claims 6-9, 14, and 16-18 because these claims depend from claims 1 and 15. Applicants have modified claims 5, 15, and 29 in the manner suggested by the Examiner and respectfully request the objection to claims 5-9, 14-18, and 29 be withdrawn.

Regarding the rejections in (3) above, the Examiner rejected claims 15-18, 20, 24, 27-31, and 39 under 35 U.S.C. § 112, second paragraph. Specifically, the Examiner rejected claims 15 and 27, asserting “[t]he claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.”

Concerning functional language, a section of the M.P.E.P. states the following:

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper.

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.

M.P.E.P. §2173.05(g) (citation omitted) (emphasis added). Further, as indicated in In re Venezia, claims that define the metes and bounds of the claimed invention with a reasonable degree of precision and particularity meet requirements of the second paragraph of §112. In re Venezia, 189 USPQ 149, 151 (CCPA 1976).

Amended independent claim 15 recites “An apparatus adapted to assign medium access control identification codes (MAC_IDs) from a MAC_ID space to each of a first group of mobile stations of a plurality of mobile stations in an ascending order from the MAC_ID space, and adapted to assign MAC_IDs to each of a second group of mobile stations of the plurality of mobile stations in a descending order from the MAC_ID space.” Applicants describe such an apparatus, e.g., at page 4, lines 5-11, and describe assignment of MAC_IDs from, e.g., page 4, line 12 to page 5, line 11 and in FIGS. 1-3. Applicants respectfully submit that this claim (and its dependent claims) details what is clearly explained in the specification and plainly conveys such to a person of ordinary skill in the pertinent art in the context in which it is used. Furthermore, the metes and bounds of independent claim 15 (and its dependent claims) are apparent and easily determined. Additionally, claim 15 is written as a single sentence, with one period at the end. Therefore, independent claim 15 and its dependent claims meet the requirements of the second paragraph of §112 and the §112 rejection to independent claim 15 and its dependent claims 16-18 should be withdrawn.

Independent claim 27 recites “A mobile station adapted: to send a transition mode request to a wireless network to initiate a transition by the mobile station from a Control Hold Mode of a reverse link packet data channel to an active state of the reverse link packet data channel; to turn on a rate request channel; to request a reverse link packet data channel transmission; to monitor a rate grant channel; in response to a receipt of an individual grant from the wireless network, to transition to the active state of the reverse link packet data channel; to initiate transmission on the reverse link packet data channel in autonomous mode; and, to monitor a Forward Acknowledgement Channel. Applicants describe such an apparatus, e.g., at page 4, lines 5-11, and describe addressing Control Hold Modes operations from, e.g., page 5, line 12 to page 8, line 24 and in FIGS. 1 and 4. Applicants respectfully

submit that this claim (and its dependent claims) details what is clearly explained in the specification and plainly conveys such to a person of ordinary skill in the pertinent art in the context in which it is used. Furthermore, the metes and bounds of independent claim 27 (and its dependent claims) are apparent and easily determined. Additionally, claim 27 is written as a single sentence, with one period at the end. Therefore, independent claim 27 and its dependent claims 28-31 meet the requirements of the second paragraph of §112 and the §112 rejection to independent claim 27 and its dependent claims 28-31 should be withdrawn.

Turning to the rejection of claims 16, 20, 24, and 39, the Examiner rejected these claims under 35 U.S.C. §112, second paragraph. Applicants have amended these claims to recite “wherein the first group of mobile stations use at least a reverse link channel to communicate with the apparatus and the second group of mobile stations use ~~at least~~ a forward link channel to communicate with the apparatus” (emphasis added). Thus, Applicants claim what is shown in FIG. 2 and described in reference to this figure, wherein: “If the available MAC_IDs are from 64 to 256, R-PDCH users (with or without F-PDCH) are always assigned the first available MAC_ID from 64 upwards. On the other hand, F-PDCH users (without R-PDCH) are assigned from 256 downwards” as stated at page 4, line 27 to page 5, line 2. Applicants respectfully request the §112 rejection to claims 16, 20, 24, and 39 be withdrawn.

With respect to the rejections of claim 17, 21, 25, and 37, the Examiner rejected these claims under 35 U.S.C. §112, first paragraph. Although it is known that acknowledgement channels can be carried by different carriers, Applicants have amended claims 17, 21, and 25 to recite “wherein the first group of mobile stations use a first ~~carrier~~acknowledgement channel, and the second group of mobile stations use a second ~~carrier~~acknowledgement channel” (emphasis added), as described at, e.g., page 4, lines 13-16, page 5, lines 7-11, and FIG. 3. Applicants have canceled claim 37 and therefore the §112 rejection to this claim is moot. Applicants respectfully request the §112 rejections to claims 17, 21, and 25 be withdrawn.

With regard to the rejections in (4), Applicants have canceled claims 1-4 and therefore these rejections are moot.

With regard to the rejections in (5) above, the Examiner rejected claims 5-14 and 27-40 under 35 U.S.C. §102(e) as being anticipated by Ho. As noted above, Applicants respectfully submit that claims 38-40 are assumed to be rejected by a combination of Lindskog and Lorenz, as described below. For the rejections to claims 5-14 and 27-37, Applicants respectfully disagree. Applicants previously amended independent claims 5, 10, 11, and 13 to more particularly point out that a reverse link packet data channel is being used by a mobile station to transmit to an apparatus such as a base station. More specifically, claim 5 recites in part “the mobile station starting to transmit on *the reverse link packet data channel* in autonomous mode”; claims 10 and 13 recite in part “wherein the mobile station transmits on *the reverse link packet data channel* in the active state”; and claim 11 recites in part “the mobile station starting to transmit autonomous rate on *the reverse link packet data channel*”. Additionally, independent claims 5, 10, 11, and 13 have been amended to recite that the methods involve a transition from a Control Hold Mode *of a reverse link packet data channel*. Thus, independent claims 5, 10, 11, and 13 are directed to Control Hold Modes for a reverse link packet data channel.

In contradistinction, Ho appears to be directed to a Control Hold Mode for a forward link and not for a reverse link packet data channel. In other words, Ho places the forward link in a Control Hold Mode, *and because the forward link is in a Control Hold Mode*, the load on the reverse link will be smaller or can be turned off. For instance, Ho states that “[s]ince the forward packet data channels and their associated control channels are not monitored, the operations of the reverse channels can be gated off to predetermined duty cycles, or set on intermittent transmission modes, or shut down completely.” Abstract of Ho. See also, paragraph 0007 at bottom two sentences. While Ho does state that “[t]he improved Control-Hold Mode is a state that a remote station can enter so that the remote station can cease monitoring various forward link channels and cease transmitting on various reverse link channels” (paragraph 0030 of Ho), Ho is not directed to a Control Hold Mode for a reverse

link packet data channel. For instance, Ho never discusses a reverse link packet data channel or implies the same. For example, Ho states the following:

Some of the channels of the reverse link can include, but are not limited to a pilot channel, power control channel, assignment channel, control channel, dedicated control channel, medium access control (MAC) channel, fundamental channel, supplemental channel, acknowledgment channel, and a channel quality indicator channel.

Paragraph 0026 of Ho. There is no mention in the cited text of Ho of a reverse link packet data channel or communication on the same, as recited in independent claims 5, 10, 11, and 13. In paragraph 0035 of Ho, Ho does state that “[t]he packet data channel (PDCH) is turned off”, but Ho makes it clear that the PDCH is a forward link PDCH. See Abstract of Ho (“Since the forward packet data channels . . . are not monitored”) and paragraph 0026 of Ho (where Ho includes a “packet data channel” as part of a forward link but *does not include* a packet data channel as part of a reverse link). If Ho explicitly states that a packet data channel is part of a forward link but makes no mention of a packet data channel as being part of a reverse link and makes no other mention at all of a reverse link packet data channel, then Applicants respectfully submit that Ho is not directed to and does not discuss Control Hold modes for a reverse link packet data channel.

Consequently, because Ho does not discuss or imply reverse link packet data channels and Control Hold Modes for the reverse link packet data channels and further does not disclose transmission on reverse link packet data channels, as recited in independent claims 5, 10, 11, and 13, independent claims 5, 10, 11, and 13 are patentable over Ho. Because independent claims 5 and 11 are patentable, their respective dependent claims 6-9 and 14 (dependent from claim 5) and 12 (dependent from claim 11) are also patentable for at least the reasons given with respect to claims 5 and 11.

It should be noted that independent claims 27 and 32 also recite “transmitting on the reverse link packet data channel in autonomous mode”. Thus, independent claims 27 and 32 and their respective dependent claims 28-31 and 33-36 are also patentable over Ho for at least this reason.

The Examiner states the following in regards to Ho: “The applicant also argued that there is no mention in the cited text of Ho of a reverse link packet data channel or communication of the same. The examiner disagrees because Ho mentions the reverse channel a plenty of times in the reference. The applicant is reminded that the reverse link data channel is a channel for transmitting data from the mobile to the base station and this is a standard not an applicant’s invention.”

With regard to this argument, Applicants respectfully request the Examiner determine and then state where the words “reverse link packet data channel” appear in Ho, as Applicants cannot find this term used in Ho. That Ho mentions a reverse channel does not mean that Ho disclosed or implies a “reverse link packet data channel” or a “Control Hold Mode” for a reverse link packet data channel or of any of the other steps involved with setting a Control Hold Mode for a reverse link packet data channel. Applicants also cannot find the terms “rate request channel” or “rate request” (e.g., as in “turning on a rate request channel by the mobile station” in independent claim 5) or their equivalent in Ho and cannot find the terms “rate grant channel” or “rate grant” (e.g., as in “monitoring a rate grant channel with the mobile station” in independent claim 5) or their equivalent in Ho. For at least these reasons along with the reasons presented above, Applicants believe that Ho does not anticipate the claims of the disclosed invention.

Moving to the rejections in (6) above, the Examiner rejected claims 1-4, 15-17, 19-21, and 23-25 under 35 U.S.C. §103(a) as being obvious over Lindskog in view of Lorenz. As described above, Applicants also assume that claims 38-40 are being rejected under 35 U.S.C. §103(a) as being obvious over Lindskog in view of Lorenz. Claims 1-4 are now canceled so the §103(a) rejection to these claims is moot. Claim 19 is a representative claim for claims 15, 19, 23, and 38. Claim 19 recites “assigning medium access control identification codes (MAC_IDs) from a MAC_ID space to each of a first group of a plurality of mobile stations in an ascending order from the MAC_ID space, wherein the plurality of mobile stations communicate with an apparatus;” and “assigning MAC_IDs to each of a

second group of the plurality of mobile stations in a descending order from the MAC_ID space”.

Thus, in the disclosed invention, MAC_IDs are *assigned* to mobile stations in ascending order for a first group of mobile stations and in descending order for a second group of mobile station. One exemplary benefit of this assignment was stated by the Applicants as follows: “This method of assignment reduces the gaps whenever the R-PDCH users are addressed by a bitmap field.” Page 5, lines 2-3 of Applicant’s specification.

By contrast, Applicants read Linskog as making use of *already assigned* MAC_IDs. The system of Linskog does not disclose MAC_ID *assignment*. Further, the Examiner asserts that “Linskog discloses a medium access control identification code (MAC_ID) embodied in a network device and dividing the mobile stations into two groups based on MAC_ID (see col. 6, lines 20-27; col. 9, lines 13-18; col. 10, line 52-col. 11, line 28).” Col. 6, lines 20-27 of Linskog states the following:

In accordance with another exemplary embodiment of the invention, the wakeup PDUs (in the FCCH or the SBCH) can be ordered by MAC-ID, for example in ascending *or* descending order, so that when an MT encounters a decode failure but recovers during the sequence of wakeup PDUs, the MT can discern whether the portion of the sequence that it missed could have contained a wakeup PDU having its MAC-ID, and then act appropriately.

Col. 6, lines 20-27 of Linskog (emphasis added). Note that this recited text from Linskog indicates that the wake up Protocol Data Units (PDUs) might be ordered in ascending OR descending order and does not disclose or imply that a first group of mobile stations would be assigned MAC_IDs in ascending order from a MAC_ID space while a second group of mobile stations would be assigned MAC_IDs in descending order, as recited generally in independent claim 19.

Col. 9, lines 13-18 of Linskog states the following:

For example, the AP can use *the least significant bit* of MAC-ID to divide MTs into two groups. Since MTs are automatically assigned to a

phase or sleep group based on their MAC-ID, for example when the AP first receives the MAC-ID of an MT, in some situations the numbers of MTs in each group will not be evenly balanced.

Col. 9, lines 13-18 of Lindskog (emphasis added). There is no disclosure or implication in this recited text from Lindskog that a first group of mobile stations would be assigned MAC_IDs in ascending order from a MAC_ID space while a second group of mobile stations would be assigned MAC_IDs in descending order, as recited generally in independent claim 19.

Turning to col. 10, line 52-col. 11, line 28 of Lindskog, the following is stated:

In accordance with a sixth embodiment of the invention, wakeup IEs in the FCCH or wakeup PDUs in the SBCH can be ordered or sequenced by MAC-ID, to allow an MT that is monitoring the sequence to discern whether its MAC-ID is excluded from the remainder of the sequence, and therefore whether the MT can go to sleep without monitoring the remainder of the sequence. For example, where the wakeup IEs or PDUs are organized so that the MAC-IDs *are in ascending order* and the wakeup IE that an MT is currently monitoring has a MAC-ID that is greater than the MAC-ID of the MT, then the MT can conclude that none of the remaining wakeup IEs will have its MAC-ID and therefore it can go to sleep instead of monitoring them. By comparing the MAC-IDs of the first and second wakeup IEs or PDUs, an MT can discern whether the sequence is *ascending or descending*. Furthermore, in accordance with another embodiment of the invention, the sequence that an MT encounters *can be alternately* ascending and descending, to ensure that MTs having different MAC-IDs are treated fairly with respect to each other over time. For example, where an MT having a large value MAC-ID is near the end of the sequence a first time, it will be near the beginning of the sequence the next time.

In accordance with a seventh embodiment of the invention, wakeup IEs or PDUs that are ordered by MAC-ID number can be used to help an MT decide what to do in the event of a decode failure that causes the MT to start monitoring the MAC frame after the sequence of wakeup IEs or PDUs has begun. For example, if the sequence *is ascending* and the MAC-ID of the MT is less than the MAC-ID of the current wakeup IE or PDU, then the MT knows that it could have missed a wakeup IE or PDU bearing its MAC-ID and intended for it, and can take appropriate action. If the sequence *is ascending* and the MAC-ID of the MT is greater than the MAC-ID of the current wakeup IE or PDU, then the MT knows that the wakeup IEs or PDUs that it missed did

not contain its MAC-ID, and it can continue to monitor the MAC frame as though the decode failure never occurred. Similar principles apply where the sequence *is descending*. For example, where the sequence is descending and the MAC-ID of the current wakeup IE or PDU is greater than the MAC-ID of the MT, then the MT knows that the wakeup IEs or PDUs that it missed did not contain its MAC-ID.

Col. 10, line 52-col. 11, line 28 of Lindskog (emphasis added). This cited text appears to disclose that PDUs are organized so that MAC_IDs are in ascending OR descending order (or alternate between ascending and then descending order), but there is never a time when both ascending AND descending order are used. Therefore, Lindskog does not disclose or imply that a first group of mobile stations would be assigned MAC_IDs in ascending order from a MAC_ID space while a second group of mobile stations would be assigned MAC_IDs in descending order, as recited generally in independent claim 19.

The Examiner then cites col. 3, lines 64-67 of Lorenz. Col. 3, lines 64-col. 4, lines 7 of Lorenz states the following:

If the addresses of the slaves are assigned in an ascending *or* descending sequence corresponding to the distance from the master, each address of a slave implicitly contains an information item which relates to a relative position and which can be evaluated, for example, within the scope of a fault locating operation. If a slave with the address X can be accessed and, on the other hand, the slave with the address X+1 can no longer be accessed, it is, for example, clear that the communications system, for example the bus line, between the slave with the address X and the slave with the address X+1 must be faulty, damaged or broken.

Col. 3, lines 64-col. 4, lines 7 of Lorenz (emphasis added). This cited text from Lorenz makes it appear as if addresses of slaves are assigned in ascending OR descending order, which does not disclose or imply that a first group of mobile stations would be assigned MAC_IDs in ascending order from a MAC_ID space while a second group of mobile stations would be assigned MAC_IDs in descending order, as recited generally in independent claim 19.

Because neither Lindskog nor Lorenz disclose or imply that a first group of mobile stations would be assigned MAC_IDs in ascending order from a MAC_ID space while a second group of mobile stations would be assigned MAC_IDs in descending order, as recited generally in independent claim 19, the combination of Lindskog and Lorenz cannot disclose this subject matter. Consequently, claim 19 is patentable over the combination of Lindskog and Lorenz.

Therefore, Applicants respectfully submit that independent claim 1 as amended is patentable over Lindskog and request the §102(e) rejection to independent claim 1 be withdrawn. It should be noted that independent claims 15, 23, and 38 track the language of independent claim 19 and therefore are also patentable over the combination of Lindskog and Lorenz, as are dependent claims 16-18, 20-22, 24-26, and 39-40.

Furthermore, Lorenz is directed to a bus system (see col. 1, lines 6-15). For instance, Lorenz gives a reason for assigning addresses of slaves in ascending or descending order, in that “[i]f a slave with the address X can be accessed and, on the other hand, the slave with the address X+1 can no longer be accessed, it is, for example, clear that the communications system, for example the *bus line*, between the slave with the address X and the slave with the address X+1 must be faulty, damaged or broken.” Col. 4, lines 2-7 of Lorenz. In contraindication, Lindskog states that “the wakeup PDUs are sequenced by MAC-ID so that a MT can conclusively determine whether remaining wakeup PDUs in a sequence can contain its MAC-ID, and go to sleep early if they cannot.” Abstract of Lindskog. Applicants cannot see any motivation whatsoever for one skilled in the art to take the system of Lorenz, applicable to bus systems and used to determine possible errors in bus lines, and combine it with Lindskog, applicable to wireless systems used to save energy by examining wakeup PDUs. Therefore, the combination of Lorenz and Lindskog is simply not valid and claims 15-17, 19-21, 23-25 and 38-40 are patentable and the §103(a) rejection should be withdrawn.

With regard to the objections in (7) above, the Examiner objected to claims 18, 22, and 26 as being dependent on a rejected base claim, but indicated that these claims would

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Art Unit: 2661

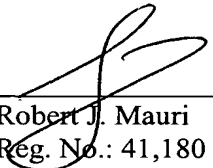
be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have rewritten claims 18, 22, and 26 in independent form including all of the limitations of the base claim and any intervening claims. Consequently, claims 18, 22, and 26 should be allowable.

Based on the foregoing arguments, it should be apparent that claims 5-36 and 38-40 are thus allowable over the reference(s) cited by the Examiner, and the Examiner is respectfully requested to reconsider and remove the rejections.

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Art Unit: 2661



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1/18/06
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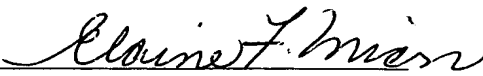
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